Talking Point Regarding H2S, SO2 and CO AreaRae Monitoring Results
January 28, 2015

1. The H2S, CO and SO2 data was collected using field instruments (AreaRae's) which provided continuous instantaneous values or readings.

2. The original goal for these 3 compounds, like for radiation and VOCs, was to establish baseline values representative of common landfill gases in the area of our monitors prior to barrier construction activities. These baseline values would be used for comparison to values measured during construction to help evaluate whether readings during construction indicated releases from the site as a result of the construction activities.

3. Another important goal for the preconstruction air monitoring was to optimize the off-site sampling and monitoring plan for the parameters of concern, including these 3 compounds.

4. Due to the short timeline allotted to deploy the original monitoring network, the Region had to utilize the best air monitoring technology available to us that could be set up quickly. This equipment, AreaRae, is typically used successfully by the removal program to monitor for the possibility of acute off-site releases.

5. We were uncertain whether the available instruments would provide data of sufficient quality for comparison to health based criteria, but did believe that they would meet the monitoring objective of collecting preconstruction baseline data.

~~4.~~

5.~~6.~~ What we have learned with regard to the instruments and methodology used to monitor H2S, CO and SO2

   a. The recommended calibration methods were not suitable for comparison to health based criteria.
   b. The instrument measurements appear to have been periodically biased at times by activities happening near the monitor.
   c. Because the instruments were running continuously, they needed frequent adjustment, care and maintenance.
   d. The instrument picked up various sulfur containing compounds and reported them all as H2S. (This conclusion is supported by MDNR's experience and monitoring data.)

6.~~7.~~ We have concluded that due to the methodology used, the data we collected for these three compounds cannot be used to compare with health based criteria.

8. We have concluded that an accurate numerical baseline for comparison with health based criteria for each of these three compounds cannot be determined based on data we collected.

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~~7.~~ fit the removal programs need for for a chronic off-site release

9. We will use our experiences over the past 6 months to optimize the instruments and methodology to be used for these three compounds during any future air monitoring events at the West Lake Landfill site.

~~8.~~

~~9.~~10. In order to explore alternative monitoring techniques, we have begun collecting information for H2S using Radiello passive monitors which will collect 14 day average samples to be sent to a laboratory for analyses.

~~10.~~11. MDNR has employed similar monitoring technology as EPA at their fixed monitoring stations. MDNR has also, however, supplemented their fixed monitoring stations with twice-daily monitoring surveys using highly sensitive instruments for both H2S and Benzene. These monitoring surveys consist of taking measurements at fixed points surrounding the perimeter of the Bridgeton/Westlake complex twice a day for comparison to health-based criteria. These monitoring surveys have consistently measured H2S concentrations substantially lower than the fixed monitoring stations because the fixed stations are sensitive to other sulfur containing compounds found in landfill gas. MDHSS review of the H2S monitoring data collected at the perimeter of the Bridgeton/Westlake complex to date has concluded that there have been no H2S concentrations sufficient to cause a public concern.

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